

Polluted Runoff Control Program, Clean Water Branch,
Hawaii State Department of Health:

**FISCAL YEAR 2000
CLEAN WATER ACT SECTION 319(h)**

END-OF-YEAR-REPORT



November 15, 2000

Hawaii Polluted Runoff Control Program Annual Report 2000

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PRC Achievements:

- Successfully met EPA's nine key elements
- Awarded an additional \$763,000 for watershed projects
- 4% increase in partnerships*
- 260% increase in educational outreach and informational events*

* compared to FY 1999

Overview

The Polluted Runoff Control (PRC) program made significant strides in achieving the various goals and objectives planned for Fiscal Year (FY) 2000. The accomplishments occurred in vital program components which included:

- ' Administration,
- ' Planning,
- ' Implementation of projects, &
- ' Educational programs & activities.

The program continued to maintain the **administrative** and project oversight responsibilities for Clean Water Act (CWA) Section 319(h) grants from FY 1995 to FY 2000 and will continue to do so with future grants as they are awarded. The program has successfully incorporated the U.S. Environmental Protection Agency's (EPA's) nine key elements into *Hawaii's Implementation Plan for Polluted Runoff Control July 2000*. This **planning** document, which was approved by the EPA on September 19, 2000, provided the necessary framework to guide future funding and activities to address polluted runoff problems in the State of Hawaii.

The program continued to award contracts to local organizations, such as the Soil and Water Conservation Districts, community-based non-profit organizations, and other groups interested in **implementing** projects aimed at reducing, preventing, and controlling polluted runoff. Currently, the program oversees 23 projects which were selected and awarded funds through a competitive process from FY1995-2000 (see table A). The program has also targeted incremental 319



Apoha takes a picture with children during an environmental education event.

(h) funds to conduct watershed assessments and implement restoration and protection activities in priority watersheds.

In addition to the 319(h) projects, the program continued to manage special polluted runoff projects that take place in the West Maui and Ala Wai Canal watershed regions.

During FY 2000, the program conducted 35 **educational** and outreach activities that drew over 7,000 participants of various ages. Thousands of polluted runoff informational brochures, coloring books, pencils, and window stickers were distributed to interested persons attending the educational gatherings.

New multi-lingual informational brochures about stream friendly gardening and best management practices were developed through a project funded by the PRC program. These brochures were translated into Samoan, Ilocano, and Hawaiian and were provided at many community fairs and stream clean-ups in the Kalihi area. The educational materials will be reproduced and made available for distribution to the general public.

*'No men are free, until
all men are free'*

*-Dr. Martin
Luther King, Jr.*

Human Resources

During the latter part of FY 1999 and the early part of FY 2000 the PRC program had a large turnover of key staff members. In most cases the members moved on to enhance and advance their careers in the field of environmental and public health protection.

In June of 1999 the Environmental Health Specialist left the program to become the CZARA coordinator in American Samoa. The Environmental Protection Specialist who executed the grant management and contract writing activities returned to the U.S. EPA

after the contract for intermittent IPA services ended in September 1999. The permanent Planner left the program in December 1999 to work with another State agency and the Program Coordinator left in June 2000 to work for U.S. EPA Region 6 in Texas. Fortunately, the members left periodically, which enabled remaining staff members to train new hires before they would leave. This allowed for some continuity even though down time was inevitable.

In spite of the numerous changes, the Clean Water Branch (CWB) Chief, PRC program Clerk Typist, and emergency hire staff members provided the backbone of support to maintain the pieces of the PRC program throughout the transitional phase. By maintaining strong partnerships, the program was able to convert vital PRC positions to permanent status. The Deputy Director of Health, CWB Branch Chief, Hawaii Association of Conservation Districts (HACD), and PRC Program Coordinator assisted in getting the 2000 State Legislature to convert the Environmental Health Specialist (EHS) and Grants Management Specialist (GMS) positions to permanent status. The permanent status designa-

tion is important because it makes the positions more attractive to potential candidates and encourages them to make long-term contributions to the program. The EHS position had been filled by a staff member who had been working in the program for over one



Former Program Coordinator, Randy Rush, now works for EPA region 6.

year as an emergency hire. This staff member currently coordinates PRC program activities in addition to performing EHS responsibilities. Although permanent status, the GMS position was not filled because an approved reorganization of the

Clean Water Branch was necessary before the GMS position could be established in the State government system. In October 2000 the director of budget and finance acknowledged the reorganization. This milestone will allow the Department of Health personnel and the CWB to start on the necessary procedures for creating the position and obtaining the GMS for the PRC program. The position is expected to be filled by the second quarter of FY 2001.

The Public Participation Coordinator position and the Planner position were filled in August 2000 and October 2000, respectively. They complete the 'core PRC program staff' which is expected to function more effectively during the next fiscal year.



Former PRC staff members have moved on to new positions in the environmental management field.

Projects

CWA Section 319(h) NPS Demonstration Projects

The PRC program is an effective program due to the substantial amount of demonstration projects funded using Clean Water Act Section 319(h) funds. The knowledge and practical information gained from these projects can be transferred to interested persons or groups so they too can address polluted runoff concerns in their area.

Currently the PRC program oversees 23 active projects that were awarded funds from 1995 to 2000. Each of the projects will be discussed in the following section. Project information will include the title, grantee, grant award, manager, percent completion, percent of funds remaining, purpose, and progress.

Ongoing Demonstration Projects

Manawainui Watershed Restoration Project

Grantee: Molokai-Lanai Soil and Water Conservation District

Grant Award: Federal funds, \$60,000;
Non-federal funds, \$40,000

Project Manager: Paul Elia

Percent of project complete: 95%;

Percent of funds remaining: 15%

Purpose. To decrease sediment loads entering coastal water bodies by implementing land treatment measures comprised of effectively designed BMPs. This effort will reduce negative impacts to nearshore marine ecosystems.

Status. Plant and shade house maintenance continued. Weather-resistant weather station boxes to be constructed for all three sites. Continued educational component of project. Poster contest for educational activity booklet initiated. Contest notification and guidelines printed and distributed throughout Molokai and Lanai. No-cost contract modification approved to extend project completion date to 12/31/00.

Farm*A*Syst/Home*A*Syst for Hawaii

Grantee: University of Hawaii, College of Tropical Agriculture and Human Resources

Grant Award: Federal funds, \$84,337;
Non-federal funds, \$65,600

Project Manager: Carl Evensen

Percent of project complete: 90%;

Percent of funds remaining: 10%

Purpose. To pilot test a localized version of the national Farm*A*Syst/Home*A*Syst educational and pollution assessment materials. The program provides fact sheets and self-assessment worksheets to farmers and homeowners to allow them to assess their activities in terms of pollution risks. **Status.** Completed drafts of the

In-house review of materials completed. In-house comments incorporated into materials and external review of materials initiated. HAPPI-Farm materials being pilot tested in 3 pilot testing areas (South Molokai, Kaneohe Bay, and West Maui Watersheds). Continue to build on initial contacts in three pilot testing areas. Completed pilot testing of the HAPPI farm materials in the target watershed areas.

The PRC program currently oversees 23 active NPS projects.



*Pelekane Bay
Phase II will be
completed before
the start of the
UWA project.*

Pelekane Bay Watershed, Phase II

Grantee: Mauna Kea Soil and Water Conservation District

Grant Award: Federal funds, \$115,100; Non-federal funds, \$81,814

Project Coordinator: Leslie J. Whited

Percent of project complete: 90%;

Percent of funds remaining: 9%

Purpose. To incorporate BMPs in order to curtail erosion in upland areas which adversely affects Pelekane Bay. These BMPs include rotating cattle grazing to enable regrowth of vegetation, designate certain vulnerable areas as off-limits to the public, conduct educational projects, conduct green-waste demos, and improve the water system through the replacement of old lines at the top of the watershed. The water will then be transported to areas used for rotational grazing.

Status: Contractor is in final stages of completing Coordinated Resources Management Plan. Kawaihae Uka I Reservoir pad and liner installation completed. In process of completing waterline installation. GPS/GIS equipment ordered for Legacy Technology Project. Training begun at Hawaii Preparatory Academy. No-cost contract modification approved to extend project completion date to 12/31/00 due to withdrawal of perimeter fencing contractor.



Pelekane Bay project site.

Waiahewahewa Restoration Area

Grantee: Molokai-Lanai Soil and Water Conservation District

Grant Award: Federal funds, \$69,250; Non-federal funds, \$33,412

Project Manager: Debbie Kelly

Percent of project complete: 75%;

Percent of funds remaining: 25%

Purpose. To comprehensively address excessive soil erosion taking place on Molokai's south shore. A detailed resource management program incorporates stabilizing rocky and sloping land areas, through the use of proven conventional critical area treatment measures and innovative, cost-effective BMPs. Specific measures include use of: live fascine plantings, rock and brush check dams in low-flow mini watersheds, filter strip/hillside ditch combination practices, use of mulch on new plantings, and exclusion of livestock on

treated areas.

Status: Weather station installed in project area near planting site #1. Continued care and maintenance of plants. Ongoing field assessment efforts to measure each planting site and develop an irrigation material list. Continue photo documentation of project sites for monitoring purposes. No-cost contract modification approved for a 6-month extension to complete project activities.



Hawaii Coastal Nonpoint Pollution Control Program Implementation Plan Development and State Management

Grantee: State Department of Business, Economic Development, and Tourism, Coastal Zone Management Program

Grant Award: Federal funds, \$147,000; Non-federal funds, \$ Not Applicable

Project Manager: Doug Tom

Percent of project complete: 70%;

Percent of funds remaining: 30%

Purpose. An Memorandum of Agreement was prepared to facilitate coordination in the development of Hawaii's Coastal Nonpoint Pollution Control Program and to revise the existing State Management Plan for CWA Section 319 (h).

Status. Completed revisions and formatting of Hawaii's Implementation Plan for Polluted Runoff Control (HIPPRC) and submitted to EPA and NOAA. Finalized and printed copies of HIPPRC. Drafted scope of work for DOH

contract to develop administrative rules for HRS Chapter 342E "Nonpoint Source Pollution Management and Control". Continue work with DOH-PRC and Central Maui SWCD on contract for Pollution Prevention Plan pilot project.



Hawaii's Implementation Plan for Polluted Runoff control.

*The State
Implementation Plan
was approved on
September 19, 2000.*

Livestock Waste Management Technology and Pollution Prevention Education Program

Grantee: Hawaii Association of Conservation Districts

Grant Award: Federal funds, \$70,000; Non-federal funds, \$70,000

Project Manager: Michael Tulang

Percent of project complete: 40%;

Percent of funds remaining: 63%

Purpose. To address polluted runoff caused by animal production facilities by devising livestock waste manage-

ment draft guidelines, initiating technical transfer of pollution prevention measures, conducting pollution prevention project workshops, and producing outreach/educational materials for distribution to ranchers and farmers.

Status. Completed 3rd draft of livestock brochure and producer self assessment form submitted for review by steering committee. DOH and NRCS in process of drafting a revised MOU as a result of concerns expressed at HACD Annual Meeting last quarter. Fifth steering committee meeting. Committee reviewed CES workshop budget scheduled for January 2001, MOU draft, EPA CAFO/AFO rules and regulations, and legislation. Final draft of livestock brochure and producer self assessment form completed and submitted to NRCS for approval.



From Land to the Sea—A School and Community Education Initiative

Grantee: Hawaii Nature Center (HNC)

Grant Award: Federal funds, \$120,000;

Non-federal funds, \$120,000

Project Manager: Diana King

Percent of project complete: 50%;

Percent of funds remaining: 41%

Purpose. To offer residents in communities throughout the Ala Wai watershed an opportunity to explore aspects of stream and watershed ecosystems in order to foster a greater awareness of watershed issues and stewardship, to revise changes to 4th grade field education program, develop 5th grade coastal environment BMPs program, and devise a series of public service announcements to encourage public employment of BMPs to keep watersheds



Hands on approach to learning at Hawaii Nature Center.

clean.

Status. Offered the *Ala Wai Bike Trek* and *Ahupua'a O'opu, & You* community programs to the public. Continued development of *Organic Farm Tour* community program. Continued to implement and revise 4th grade program curriculum. Revisions focused on reforestation, runoff, human & animal impacts, and watersheds. Implemented native koa reforestation demonstration project. Continued evaluation of potential sites for 5th grade Coastal Program. Began work in public service announcement (PSA) phase of project. Formed a PSA team which identified 8 to 10 BMPs of significance to the general public.



Students at the Hawaii Nature Center learn about how the activities at the top of the watershed impact the lower areas of the watershed, including the coastline.

For environmental education classes call the Hawaii Nature Center at 955—0100.

Mo'omomi Watershed Project

Grantee: Molokai-Lanai Soil and Water Conservation District

Grant Award: Federal funds, \$51,900;

Non-federal funds, \$85,000

Project Manager: Paul K. Elia

Percent of project complete: 5%

Percent of funds remaining: 95%

Purpose. To control and reduce soil erosion, prevent and reduce sediments reaching the ocean waters, and to stabilize critical areas. Methods to achieve objectives include revegeta-

tion of eroded areas, structural stabilization of banks and rocky land areas, grade and install silt basins, and re-route access roads.

Status. No-cost contract modification approved to extend project completion date to 12/31/01 due to planning and permitting processes needed. Community meetings on hold until confirmation with the land owner on homestead boundaries are determined.

Hawaii Association of Conservation Districts Water Quality Training/Capacity Building

Grantee: Hawaii Association of Conservation Districts

Grant Award: Federal funds, \$40,000; Non-federal funds, \$42,000

Project Manager: Michael Tulang

Percent of project complete: 80%;

Percent of funds remaining: 27%

Purpose. To devise pollution prevention project workshops, organize and convene statewide workshops on NPS pollution and technology transfer, and support implementation of MOU with other Federal/State/local agencies and entities.

Status. Drought planning workshop dates set for Oahu, Maui, Hawaii, Kauai, and Molokai. The Water Quality Technical Conference 2000 (WQTC 2000) Committee discussed themes and topics and formed subcommittees to address details. The WQTC 2000 is scheduled for 11/29-12/1 at University of Hawaii. WQTC 2000 Committee continues conference planning efforts.

East and West Kauai - Demonstration and Training in Critical Area Stabilization Techniques on Agricultural Roads and Unprotected Waterways

Grantee: East Kauai Soil and Water Conservation Districts

Grant Award: Federal funds, \$67,623; Non-federal funds, \$88,546

Project Manager: Deborah Chang

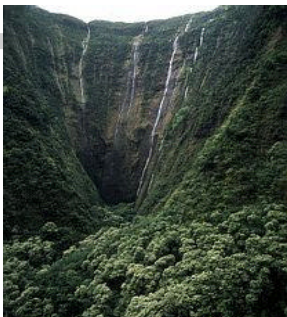
Percent of project complete: 50%;

Percent of funds remaining: 88%

Purpose. To participate in erosion control management and conduct technical transfer education to agricultural industry and private landowners to reduce sediment runoff. Major objectives

include installation of erosion and sedimentation reduction improvements on problematic roads and drainage areas. Seven project areas are identified. Production of educational materials consists of five videos and 2 brochures.

Status. Project site visited by PRC program staff. Awaiting road maintenance plan for Grove Farm. Work to begin on east sites in late July and westsites in the month of August.



Upcountry Maui Sediment and Runoff Control

Grantee: Central Maui Soil and Water Conservation District

Grant Award: Federal funds, \$100,000; Non-federal funds, \$100,000

Project Manager: Doug MacCluer

Percent of project complete: 80%

Percent of funds remaining: 28%

Purpose. To prevent, control, and reduce erosion sedimentation and to control storm water runoff by implementing effective BMPs on pineapple fields.

Status. Completed planting hedges and installation of irrigation system for fields 273 & 274. Initiated discussion with plant group to address planting of native species. Project site visited by PRC program staff. Completed construction of large basin in field 274. Began construction of basins in field 273.

Cover Crops for Erosion Control in Tree Farms to Reduce Nonpoint Source Pollution

Grantee: Hawaii Agriculture Research Center, Forestry Department

Grant Award: Federal funds, \$11,000; Non-federal funds, \$11,000

Project Manager: Nick Dudley

Percent of Project Complete: U/A;

Percent of funds remaining: 60%

Purpose. Identify effective ground cover species--to reduce soil erosion

and other impacts--for established *Acacia koa* demonstration sites located in the Koolau-poko Watershed. The project will entail collection of seed and/or vegetative plant material, propagation of cover crops for screening, preparation of site, and evaluation of various seedlings for their potential as ground covers in tree farms.

Salt Lake Watershed Improvement Program



Clean Water Branch Chief Denis Lau explains a map of the Salt Lake watershed.

Grantee: Department of Environmental Services, City and County of Honolulu

Grant Award: Federal funds, \$20,000; Non-federal funds, \$20,000

Project Manager: Gerald Takayesu
Percent of Project Complete; 15%; Percent of funds remaining; 89%

Purpose. To reduce both the discharge of pollutants into Salt Lake and associated odors by employing BMPs and

public participation. Activities include identification and implementation of BMPs to minimize the discharge of pollutants, monitor water quality in Salt Lake, continue outreach education using school and community resources, and expand efforts to more effectively control the use of nutrients and pesticides.



Department of Health, Deputy Director Gary Gill educates students.

"We all contribute to polluted runoff. We need to work together to prevent and control it. It's the only way."

-School teacher

The Pearl Harbor Watershed Environmental Restoration Projects

Grantee: Pearl Harbor 21 Service Leadership Program, University of Hawaii—Leeward Community College.

Grant Award: Federal funds, \$55,000; Non-federal funds, \$55,000

Project Manager: Joseph Chernisky
Percent of Project Complete; 15%; Percent of funds remaining; 100%

Purpose. To survey, identify, and monitor sources of polluted runoff and the impact of urban growth on the critical coastal zone of Pearl Harbor. The plan

will also implement small scale Best Management Practices (BMPs) to help preserve and restore Pearl Harbor's uniqueness. This project entails conducting recruitment efforts for volunteers, initiating volunteer monitoring program field surveys at all sites, preparing reports on water quality and seasonal habitat data analysis, monitoring nutrient and pesticide loads, and participating in public outreach activities.

The Waters of Kawainui Marsh: An Educational/Interactive Website

Grantee: Learning Education Technology & Lanikai Elementary School

Grant Award: Federal funds, \$29,360; Non-federal funds, \$29,360

Project Manager: Lauren Apiki

Percent of Project Complete: U/A; Percent of funds remaining: 63%

Purpose. To educate a broad variety of residents--via an interactive, educational web site-- concerning the adverse impacts of NPS pollution, and provide low-impact activity alternatives. Students will obtain general computer skills, conduct limited scientific testing of the Marsh's water quality properties, learn about the water

cycle and environmental functions of the Marsh, and engage in activities to produce Web multimedia documents for the site. The Website will be entered in the International CyberFair 2000 student contest.



Check out their website at <http://www2.lanikai.k12.hi.us/health/menu.htm>

The Watershed Restoration Corps

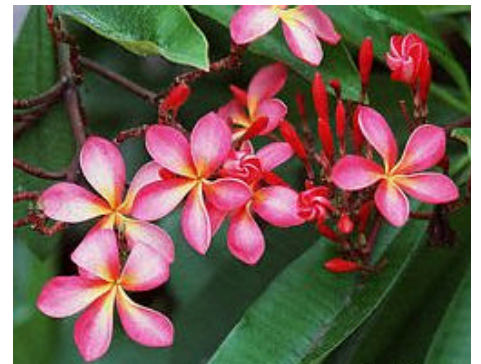
Grantee: Waimanalo Health Center

Grant Award: Federal funds, \$80,000; Non-federal funds, \$80,000

Project Manager: Lisa Ferentinos

Percent of Project Complete: U/A ; Percent of funds remaining: 59%

Purpose. To reduce sediment and associated contaminants entering the streams from eroding banks and adjacent areas by expanding the existing stream bank revegetation area and creating new revegetation areas. NPS



education and implementation efforts will also be pursued. Project objectives include: establishment of Watershed Restoration Corps (comprised mostly of students), conduct site selection, implement identified BMPs, continue plant propagation at nursery, continue monitoring TMDL levels, monitor survival rates of seedlings, and conduct media events for outreach activities.

"The most alarming of all man's assaults upon the environment is the contamination of air, earth, rivers, and sea . . ."

Rachel Carson

HAPPI—Hawaii's
Pollution Prevention
Information.

Kalihi Community Riparian Improvement Stream

Grantee: Hawaii's Thousand Friends, including assistance from Ahupua'a Action Alliance

Grant Award: Federal funds, \$30,000; Non-federal funds, \$30,000

Project Coordinators: Anna Salavea, Ben Manuel, and Ilima Morrison

Percent of Project Complete: 4.1% ;
Percent of funds remaining: 100%

Purpose. To facilitate long-term restoration of Kalihi stream to its former central place—an asset in the life of the community. Activities include producing an educational video, depicting the cultural and natural history of the stream; continuing community stewardship efforts; and pursuing restoration and interpretive facilities along segments of Kaewai and Kalihi Streams. The video will be multi-lingual and made available at libraries,

schools, and will be presented to Neighborhood Boards and other groups throughout the watershed. Stream restoration includes clearing invasive vegetation, removing debris, conducting an inventory of riparian flora and fauna, and planting native seedlings.



Community pride stems from participation in community activities such as KCRISP.

Increasing Public Awareness of Pollution Risks Using Farm*A*Syst/Home*A*Syst

Grantee: University of Hawaii, College of Tropical Agriculture and Human Resources, Departments of Agronomy and Soil Science and Agriculture and Resource Economics



Grant Award: Federal funds, \$64,690; Non-federal funds, \$64,931

Project Manager: Carl Evensen

Purpose: Disseminate educational and pollution self-assessment materials--which are localized versions of nation-

ally developed materials--to individuals and groups to facilitate home-based pollution risk assessments. The project includes conducting 21 workshops targeting community members, teachers and agency representatives on all islands on usage of materials; provide oral presentations to neighborhood boards; prepare and distribute workshop promotional materials to local media outlets; develop and erect informational displays for communities; and monitor effectiveness of workshops and educational materials.

*Five 319 projects
were completed
this year.*

Student Water Quality Monitoring Program

Grantee: Hawaii State Department of Education

Grant Award: Federal funds, \$220,400; Non-federal funds, \$146,550

Project Manager: Colleen Murakami

Percent of project complete: 50%

Percent of funds remaining: 14%

Purpose: To foster environmental stewardship or responsible, action-oriented behaviors to reduce non-point source pollution. Methods to achieve project objective include teacher training programs and workshops designed to improve understanding of water quality issues and instructional skills in teaching environmental stewardship, devel-

opment of public, private, and community partnerships, and development and maintenance of watersheds electronic database.

Status: High school and middle school teachers attending instructional workshops. High school students have been trained on educating visitors to Hanauma Bay on human impacts on the environment. Development of a statistics manual for teachers and students. Teachers conducting field tests of water quality kits. Continued development and revisions of Hawaii Water Shed website. No-cost contract modification approved to extend project completion date to 12/31/01.

Completed Demonstration Projects

Watershed Stabilization on the Hilo Coast

Grantee: Hamakua Soil and Water Conservation District

Grant Award: Federal funds, \$120,000, Non-federal funds, \$344,116

Project Manager: Thomas Crabb

Percent of project complete: 100%; Percent of funds remaining: 0%

Purpose. To reduce erosion in sugarcane fields after final harvesting, reduce sedimentation from sugarcane fields that would otherwise enter streams and coastal water bodies along Hilo coast, and distribute information

about the project to interested parties to encourage future projects addressing polluted runoff in the Hilo area.

Status. Mowing operations, land leveling and conservation ditch repairs shall continue. Flooding in sensitive areas is minimized or eliminated. Soil loading into streams is vastly reduced, improving coastal waters. Project completed 7/31/00. Final Report submitted 8/15/00.



Hamakua Coast

Waiakea Stream Best Management Practices

Grantee: County of Hawaii, Department of Public Works

Grant Award: Federal funds, \$90,000; Non-federal funds, \$60,000

Project Manager: Jiro A. Sumada

Percent of project complete: 100%;

Percent of funds remaining: 0%

Purpose. BMPs will be implemented to reduce NPS pollution from sediment transport and a wide range of land uses that endanger some of Hilo's most important natural resources. The bank of Waiakea Stream severely erodes during

heavy rains, resulting in sedimentation of Waiakea Fish Pond and Hilo Bay.

Status. All necessary project permits obtained. Construction of BMP to stabilize stream bank completed in June. Project site visited by PRC program staff. Project Completed 6/5/00. Final Report Submitted 6/25/00.

Storm Drain Stenciling

Grantee: Youth for Environmental Services (YES)

Grant Award: Federal funds, \$18,182; Non-federal funds, \$13,522

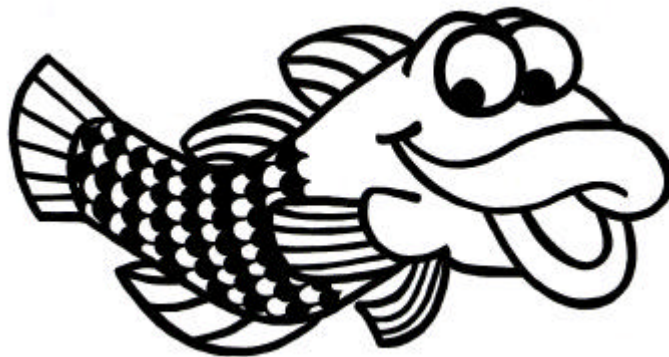
Project Manager: Sean Casey

Percent of project complete: 100%

Percent of funds remaining: 0%

Purpose. YES will provide coordination and supervision of neighbor island storm drain stenciling projects and stream cleanups, organize school visits to discuss water quality and pollution prevention, and assist in recruitment of

volunteers for PRC public outreach projects. **Status.** Total of 53 projects completed including storm drain stenciling, stream and wetland restoration, trail maintenance, and litter pick-up. An estimated 9.02 tons (of proposed 6 tons) of litter removed. Environmental education presentations carried out at 19 different elementary, intermediate, and high schools. Project completed 6/30/99. Final Report Submitted 8/24/99.



Dump no waste, goes to ocean.

- Apoha the o'opu

"Don't be just another member of society, be a living example of your dreams and goals."

Kalihi Community Resource Improvement Stream Project

Grantee: Hawaii's Thousand Friends

Grant Award: Federal funds, \$75,000;

Non-federal funds, \$68,436

Project Manager: Malie Bay

Percent of project complete: 100%

Percent of funds remaining: 0%

Purpose. This project seeks to reconnect the Kalihi Valley community to Kalihi Stream, educating the public concerning watershed stewardship, management of Kalihi stream, and bringing about greater awareness of pollution prevention measures.

Status. Produced and distributed 200 copies of newsletter. Additional multi lingual brochures printed to distribute to community. Continued work with YES and Farrington High School. Project Completed 6/1/00 Final Report Submitted 8/11/00.



PRC program's former Planner, sat in on KCRISP activities and provided suggestions for the KCRISP II project.

Hawaii Water Reclamation Public Education Outreach Program

Grantee: Hawaii Water Environment Association

Grant Award: Federal funds, \$20,000;

Non-federal funds, \$17,300

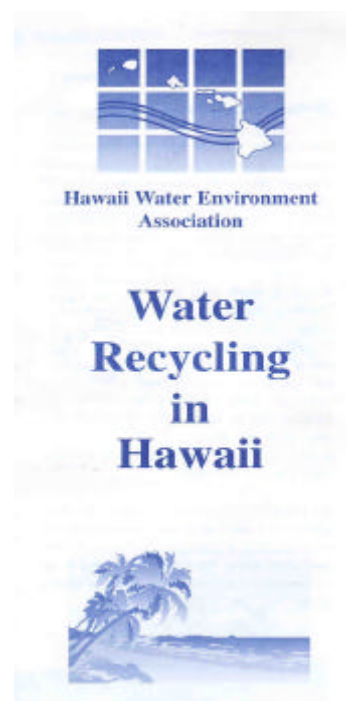
Project Manager: Steve Parabolicoli

Percent of project complete: 100%

Percent of funds remaining: 0%

Purpose. To produce a video and pamphlet for water reclamation/recycling educational purposes, and form a "speakers bureau" for educational presentations. Project goals are to foster a greater understanding of the importance of water conservation and water recycling in the state.

Status. Video and pamphlet completed and distributed to various governmental agencies. Video shown to intermediate schools and on Maui Community College cable TV. Project Completed and Final Report Submitted 5/25/00.



Selected Demonstration Projects for FY '00

The Polluted Runoff Control (PRC) Program requests proposals annually for projects which seek to prevent, control, and/or reduce polluted runoff statewide, with an emphasis on Category I Watersheds, and for implementing portions of the Hawaii Coastal Nonpoint Pollution Control Plan (HCNPP). Below are summations of the six selected CWA Section 319(h) projects for FY '00. PRC staff is currently developing the contracts for these projects.

Sanitary Sewer Overflow Prevention Public Education Program

Grantee: Hawaii Water Environment Association

Grant Award: Federal Funds, \$30,000;
Non-federal funds, \$41,000

Project Manager: Roy Abe

Purpose: Educate the public on the causes of sewage spills, the impacts to public health, the costs to the sewer

users, and the important role the public can have in minimizing the occurrence of sewage spills. The primary means of educating the public on prevention of sewage spills will be professionally produced TV public service announcements, that will be supplemented with an educational brochure.

Nawiliwili Bay Watersheds Restoration Project

Grantee: Pacific Island Sustainable Community Ecosystems (PISCES)

Grant Award: Federal Funds, \$64,000;
Non-federal funds, \$69,000

Project Manager: David L. Martin

Purpose: Demonstrate storm water quality BMPs that will help improve

water quality in water quality impaired segments and to implement water quality improvement practices and educational programs leading to the development of a watershed restoration/water quality improvement strategy for the watersheds discharging into Nawiliwili Bay.



He'eia Coastal Restoration Project

Grantee: Friends of He'eia State Park

Grant Award: Federal Funds, \$84,000;
Non-federal funds, \$84,000

Project Manager: Carole J. McLean

Purpose: Improve the riparian zone that will host native plants and trees.

Restore habitat for stream fauna and allow this area to serve as a buffer zone to trap urban runoff and sediments. Continue monthly stream clean up with community volunteers, and water quality monitoring with the Chemistry department of Windward Community College.

Statewide Polluted Runoff Control Education and Mapping Project

Grantee: Youth for Environmental Service

Grant Award: Federal Funds, \$68,720; Non-federal funds, \$163,120

Project Manager: Sean Casey

Purpose: Increase the social value of streams, estuaries, bays and the ocean by educating students on how water

bodies function, the role of water in our natural eco-system, demonstrating impacts of degraded water quality in areas within the local neighborhood, and introducing new Global Positioning System(GPS)/Geographic Information System(GIS) technologies to emphasize these systems.

Lana'i Watershed Restoration: Erosion and Fire Control Component for Lana'ihale and Surrounding Buffer Area

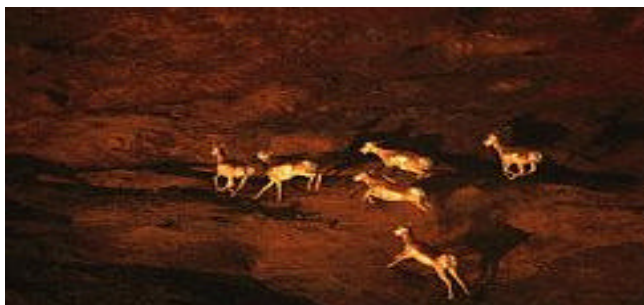
Grantee: Maui County Department of Water Supply and Lana'i Company

Grant Award: Federal Funds, \$50,000; Non-federal funds, \$50,000

Project Managers: Darrell Stokes and David Craddick

Purpose: Reduce erosion and sediment

by protecting and restoring remaining vegetative cover. Prevent loss of additional vegetative cover. Restore and replant eroded areas in critical buffer zones and critical habitat areas. Preserve the island's remaining recharge capacity, and reduce soil nutrient loads to near-shore waters.



Agricultural Road Stabilization Demonstration Project

Grantee: Hawaii Association of Conservation Districts

Grant Award: Federal Funds, \$60,000; Non-federal funds, \$60,000

Project Manager: James Teo

Purpose: Establish demonstration sites throughout the state to measure the effectiveness of various soil and fi-

ber amendments available on the commercial markets. These sites will provide valuable data and educational opportunities. Test tacking agents, polymers and different forms of calcium chlorides to control erosion, reduce sediment and fugitive dust production.

CWA Section 104 (b)(3) NPS Special Projects

In addition to Section 319(h) projects, the PRC Program was responsible for managing or assisting in the management of other *special projects* funded with monies made available under Section 104(b)(3) of the CWA. These special projects included the West Maui Appropriation Projects and Phase I Ala Wai Watershed Improvement projects. The progress of the projects are described below.

West Maui Appropriation Special Projects: Maui County Watershed Coordinator Project

Grantee: County of Maui Department of Public Works and Waste Management

Grant Award: Federal funds, \$150,000; Non-federal funds, \$N/A

Project Manager: Howard Hanzawa

Percent of project complete: 37%

Percent of funds remaining: 67%

Purpose. This project aimed to generate a part-time watershed coordinator position. The coordinator would help facilitate the incorporation of watershed management principles and practices in the West Maui watershed region.

Status. The latest Maui County Watershed Advisory Committee meeting was held on 8/31/00. The committee dis-

cussed wind and runoff erosion resulting from the fallow sugar cane fields of upper Lahaina and possible mitigation measures. A revised draft of the BMP Manual has been prepared and distributed for further review and comment by the committee. An Erosion/Pollutant Hotline has been established and is currently listed in the Maui County Telephone Directory. The hotline allows the public to call-in complaints on soil erosion, dust nuisance, drainage runoff, illegal dumping, and wastewater spills. The Land Use and Codes Administration will then investigate the complaint or refer to the appropriate agency.



Prevention (P2) Assistance for Maui Hotels, Condominiums, and Golf Courses

Grantee: Social Science Research Institute, Office of Research Services, University of Hawaii at Manoa

Grant Award: Federal funds, \$70,957; Non-federal funds, \$70,000

Project Manager: Michael P. Hammett

Percent of project complete: 40%

Percent of funds remaining: 85%

Purpose. The purpose of the project is to promote the use of best management practices (BMP) by hotels, condominiums and golf courses on Maui to reduce potential sources of water pollution. This objective will be accomplished by developing a voluntary (nonregulatory) educational and assistance program to improve awareness and help protect water resources.

Status. The project started a bit slower than anticipated as a result of scheduling conflicts and PGA tour activities.

Since November 1999 steady progress has been made by the project team which has established entree into the community and gained support and voluntary effort from the target participants. Numerous meetings concerning the project and its implementation have been held with hotel, condominium, and golf course industry representatives, professional organizations, government agencies, and other potential partnership organizations. Golf course/turf grass and hotel self-audit questionnaire forms were developed and mailed to target industry participants. Training workshops for the hotel and golf course industries are being developed and are proposed to be conducted before the end of the year.

West Maui SWCD BMP Implementation Project on Maui Pineapple Company and Pioneer Mill Land

Grantee: West Maui SWCD

Grant Award: Federal funds, \$285,000; Non-federal funds, \$90,000

Project Manager: David Nobriga and Wes Nohara

Percent of project complete: 5%

Percent of funds remaining: 100%

Purpose. The project will focus on implementing BMPs to remediate sediment runoff from agricultural lands. The practices will include the installation of new sedimentation basins, and construction of access roads to main-

tain the basins.

Status. To date, no significant construction work has been completed. The construction contractor is presently conducting earth-moving activities at the site of the first retention basin. It is anticipated that the first basin will be completed by this end of year.

Ala Wai Canal Watershed Improvement Special Projects:

Kaneloa Wetlands Restoration in Kapiolani Park

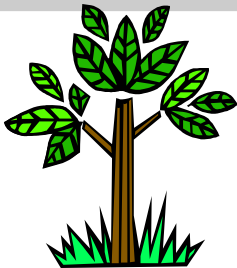
Total Amount Funded: \$19,509

Receiving Organization: Kapiolani Park Preservation Society

Project Manager: Michelle Matson

The project was expected to be completed 9/30/00, however, delays in the installation of a fence enclosing the project have left the project still incomplete. All of the project funds have been expended. The project site has been cleaned and cleared of invasive

exotic growth that once choked the wetland, and irrigation and landscape materials are ready when the enclosure fence is finally relocated. A sump pump was purchased and installed with short range piping to bring brackish water directly below the wetland bed to the surface to expand the plant growth along the makai side.



Magic Island Planting

Total Amount Funded: \$ 1,950

Receiving Organization: Surfrider Foundation

Project Manager: Michael Ward

Quarterly status reports have not been submitted for this project. Naupaka plants have been planted, and PRC staff was informed of a work day on 5/6/00. 69% of the project funds remain unexpended. This project is expected to be completed at by the end of the year.

Manoa Streambank Restoration Project

Total Amount Funded: \$20,000
Receiving Organization: Malama o Manoa
Project Manager: Traver Carroll

The project has been delayed due to the committee's success in leveraging State and City & County funds for the complete redesign and construction of the Manoa Streambank abutting Manoa

Valley District Park. DOH has approved the use of these funds for the development of the Manoa Stream Heritage Trail, because these funds must be expended by 9/30/00, and the design committee will not gain approval of the complete redesign before that date. All funds for this project have been expended.

Tantulus Dumpsites Cleanup

Total Amount Funded: \$ 8,500
Receiving Organization: Conservation Council for Hawaii
Project Manager: Lynda Sakraida

The project was 80% complete in July and is scheduled to be fully complete 10/31/00.

Approximately 90% of the funds have been expended. On their 20th workday, the project installed 32 poles which provide a preventive barricade so trucks will not be able to back up to the low wall and dump trash into the ravine. Volunteers also planted ginger in other clean up sites.





Ala Wai watershed projects continue to prevent and control polluted runoff .

Hawaii Plant Garden and Outdoor Nature Laboratory

Total Amount Funded: \$ 17,000
 Receiving Organization: Kuhio Elementary School
 Project Manager: Laurie Faure

Due to a personal and permanent leave of absence by the Project Manager, this project was not completed. A commu-

nity volunteer has asked to take over and complete the project. The PRC staff is evaluating this individual's capability of completing this project effectively.

Waahila Ridge Community Research Garden Master Plan

Total Amount Funded: \$ 10,740
 Receiving Organization: Center for a Sustainable Future
 Project Manager: Karen AhMai

The PRC staff has sent many letters and made many phone calls to the Pro-

ject Manager to find out the status of the project. No Quarterly Status Reports as required by the MOA have been submitted, and \$5,603 remains unencumbered.

Unified Watershed Assessment Program

The Unified Watershed Assessment Program has taken some time to establish because of competing priorities of the PRC program. However, UWA activities are progressing substantially with lead contributions by the EHS, supporting staff members and UWA partners. Currently the program continues to develop a contract with the West Maui Soil and Water Conservation District (SWCD) to implement watershed restoration and protection activities identified in the Watershed

Restoration Action Strategy (WRAS) developed for the West Maui watershed region titled *The West Maui Watershed Owners Manual*. The activities involved in this watershed project will address soil erosion issues on the slopes of the West Maui Mountains and the fallow Pioneer Mill lands mauka of Lahaina and Kaanapali. The work will protect the upper portions of the West Maui Mountains forested watersheds by construction strategic fences. This is intended to prevent damage caused by feral animals and soil from washing down the slopes into the streams and ultimately to the ocean. Studies conducted as part of algae bloom work in West Maui identified runoff from the forest as a significant portion (ca. 25%) of the total sediment transported to the oceans in West Maui's streams.

The project will also minimize soil erosion that comes from former sugarcane lands which have become nonproductive and are now left fallow. The project will reduce storm runoff from the lands by improving existing best management practices. The project will also attempt to address the dust problems and concerns that are affecting the local community.



UWA projects will continue to improve the conditions of our watersheds.

The Pelekane Bay WRAS, titled *Pelekane Bay Coordinated Resource Management Plan*, is expected to be finalized by the end of December 2000. Substantial revisions were made since the draft version was submitted in December 1998 and so the Mauna Kea SWCD and the PRC program agreed to wait until the document was completed before implementing any watershed restoration and protection activities. The contract for this watershed project is expected to be completed by the second quarter of FY 2001.

In the other priority watersheds regions, namely Koolaupoko, Nawiliwili, and South Molokai, the Department of Health had decided to solicit proposals from other organizations interested in performing watershed assessment activities in these locations. The decision was made after it became apparent that staff, resource, and workload issues were significant concerns for the selected, lead organizations (Kailua Bay Advisory Council, East Kauai SWCD, and South Molokai SWCD).

By September 2000, the PRC program completed the development of the Unified Watershed Assessment "request for proposal" items which included the legal advertisement, information package on proposal submission, and application format, and selection criteria. The items were peer reviewed by other partners including the EPA, the Coastal Zone Management, the National Resource Conservation Services, the DOH-Clean Water Branch, and the DOH- Environmental Planning Office. The 'request for proposal' process will continue into the first quarter of FY 2001 and the UWA contractors are expected to be selected by January 2001.

Hawaii Coastal Nonpoint Pollution Control Program-CZARA



On September 19, 2000 the EPA approved Hawaii's Implementation Plan for Polluted Runoff Control, dated July 2000, pursuant to the Clean Water Act Section 319. The plan successfully incorporated the nine key elements, as defined in the Nonpoint Source Program And Grant Guidance for FY 1997 and Beyond (EPA, May 1996). The document also characterized an effective and dynamic state polluted runoff control program that provides the necessary framework to guide future funding and activities to address polluted runoff. Approval of this document was a significant milestone for the PRC program because it enabled the State to receive an additional \$763,000 targeted to restoring severely, impaired watersheds.



The PRC program continued to implement activities identified in the plan during FY 2000. During the second and third quarters, the program and CZM continued the implementation and effectiveness monitoring of agricultural Best Management Practices and oversight of the Pilot Agriculture Pollution Prevention Program implementation. A request for proposals to contract activities to rank and select a host SWCD to implement the pilot project

was completed in June 2000. Decision Analysts Hawaii, Inc. was the contractor selected by CZM. The contractor described the process that was performed to rank and select the host SWCD for the pilot project at the HACD annual conference in July 2000. The contractor identified Central Maui SWCD as the most capable district for conducting the pilot project based on 5 critical categories including: (1) support provided by SWCD, (2) English skills, (3) Coastal waters, (4) Runoff potential, and (5) Farm activity. Winward Oahu, West Maui, Hamakua, Mauna Kea, Kona, and Olinda-Kula placed second through seventh, respectively.

The PRC program, CZM, NRCS, and Central Maui SWCD have met on two occasions to clarify the scope of work for the project so the District would be able to submit an accurate proposal. The contract for the project will be developed in the first quarter of FY 2001. All of the activities conducted are significant implementation action items because the Pilot project will eventually determine whether the voluntary program is feasible and cost-effective.

*National Pollution
Prevention Week was
September 18—24,
2000.*

Committee Participation

The PRC program remained active in various committees during FY 2000. The PRC staff organized meetings, workshops and focus groups to address relevant committee issues until the goals and objectives were reached. The following section will describe the activities performed in each committee.

HACD NonPoint Source Technical Committee

The PRC program continues to provide technical assistance and information regarding NPS pollution to the Conservation Districts. PRC staff attends the HACD quarterly and annual meetings, and facilitates the NPS Technical Committee portion of the agenda. PRC staff

updates the Conservation Districts on the PRC Implementation Plan, the 319 (h) projects currently run by the Districts, the Pollution Prevention Plan Pilot Project, and the Unified Watershed Assessment projects.

Coral Reef Task Force

The Polluted Runoff Control Program was invited in June to meet with coral reef educators, researchers, and community groups to review and suggest specific funding priorities for the Hawaii Coral Reef Initiative. In September,

the PRC staff was invited to represent the State Department of Health on a panel to select coral reef restoration projects.

Pollution Prevention Working Group

This working group is described as an assembly of individuals involved in pollution prevention or regulatory activities whose goals are to increase communication and outline areas for coordination among programs. March 2, 2000 meeting discussed the Pollution Prevention Assistance Program for West Maui's Hotels, Condos, and Golf

Courses, Earth Month activities, Pollution Prevention Networks, Investing in the Environment awards, and the Oahu Reuse Forum. PRC staff met with the group in September to discuss activities to promote National Pollution Prevention Week.

Source Water Assessment Planning Program (SWAP)

This working group was formed to develop a Source Water Assessment Protection Plan. The group is made up of representatives of various Department of Health programs, and is lead by the Safe Drinking Water Branch. PRC staff attended SWAP meetings to discuss integration of coordination efforts with UWA.



State Erosion Control Committee

The purpose of this committee is to exchange information on available methods currently used to evaluate erosion rates and sediment transport in Hawaiian watersheds, with the goal of identifying potential complementary uses of different methods as well as shortcomings that need to be addressed. The PRC staff continues to attend meetings.

Topics of discussion included Watershed Classification for Erosion Hazard Rating. USGS presented criteria for delineating high erosion hazard areas on Oahu including land-surface slope, rainfall distribution, land use and hydrologic soil group. GIS coverages were developed for all these parameters. The intended use of the coverages is to identify watersheds or parts of watersheds susceptible to high rates of erosion.

An EPA consultant discussed the use of the GLEAMS model in pre-

dicting transport of various size fractions of the sediment load.

The consultant also discussed TMDL modelling efforts for the Waimanalo watershed. Her criteria and constraints in building the model included:

1. Use existing equations and models
2. Assess watershed inputs as relative contributions
3. Model parameters should be able to reflect changes in land use
4. Model should not require calibration with existing data.

Other topics centered around Oahu Erosion Hazard Delineation. USGS discussed land use-land cover information for the erosion hazard classification effort. Multiple agricultural land use categories have been mapped on 1:6,000 scale air photos. Land-use coverages are being developed by various agencies with interests in urban, agriculture and conservation lands.

Interagency Water Quality Action Program Training Committee

This committee plans, organizes and facilitates the Annual Interagency Water Quality Training Conference. This year the committee has organized a

conference to be held in November, and some of the discussion will focus on AFO/CAFO issues and also the TMDL development.



Kailua Bay Advisory Council

The PRC staff has not been very active with this organization but con-

tinues to provide technical information upon request.

Natural Resources Conservation Service State Technical Committee

Representatives from State and Federal agencies meet to address specific Farm Bill programs. Three subcommittees were established to discuss and make recommendations regarding ; (1) Environmental Quality Incentives Program (EQIP), Forestry Incentives Program (FIP), Farmland Protection Program (FPP), and other non-wildlife or wetlands related issues; (2) Wetlands Conservation (WC) provisions of the Farm

Bill, Wetlands Reserve Program (WRP), Conservation Reserve Program(CRP), and Wildlife Habitat Incentives Program (WHIP); (3) Public Information, Outreach, and Education. PRC staff continues to attend meetings and provide NPS program information as needed.



"The more clearly we can focus our attention on the wonders & realities of the universe about us, the less taste we shall have for destruction."
-Rachel Carson

Water Quality Education Network Committee

Government agencies, educators, and interested organizations meet to discuss ongoing or proposed water quality education programs. Members provide updates on what their group is doing and offer advice or recommendations to other members.

PRC staff also attended county public information meetings addressing final approvals for revamped grading permits, and attended Hawaii Environmental Association Conference and assisted in set-up of educational display.

NonPoint Source Grants Management Workgroup

Group meets monthly via conference call to discuss and develop ways to manage grant funds more effi-

ciently. There are eight specific action items that we focus on during our discussions.

Malama Hawaii

This group proposes a statewide public awareness initiative, developed by a diverse group of public, private and non-profit organizations, to significantly increase public support and commitment to preserving Hawaii's natural heritage. Sixty-one organizations have

signed on a Memorandum of Understanding, including the State Department of Health. PRC staff attends the general meetings, and has recently participated in the Bishop Museum Family Sunday event sponsored by Malama Hawaii.



"Water is the most critical resource issue of our lifetime and our children's lifetime."

Luna Leopold

Koolau Mountains Watershed Partnership

On August 4, 1999, a group of both government and private landowners officially formed the Koolau Mountains Watershed Partnership (KMWP) by signing a Memorandum of Understanding. The partners are committed to provide assistance and support of holistic management activities on a sustainable basis. The first goal of KMWP is to develop a management plan and hire a coordinator. PRC staff attends the monthly meetings and offers NPS information as needed.

The PRC program will present at a Watershed Symposium (November 2000) sponsored by the West Maui Mountains Watershed Partnership. The PRC program will provide information on grants for funding watershed protection projects.

Educational Programs and Activities

Public outreach and educational efforts continue to be one of the PRC Program's strongest components. Throughout the year the PRC Program conducted lectures on watersheds and polluted runoff at colleges, high school science classes, and elementary schools. PRC staff provided informational presentations to farmers on all major islands in response to inquiries concerning regulations set forth in the HIPPRC. PRC program mascot, 'Apoha, made many appearances at elementary schools and other children's events throughout the year. PRC staff has responded to many individual inquiries from residents or students requesting information on NPS pollution.

"Water helped ancient man learn those first lessons about the rights of others and responsibility to a larger society ..."

- M. Meyer

The PRC Program works each year with Moanalua Gardens Foundation to produce a one hour science show targeting 4th and 5th graders. This show is broadcast on Hawaii Public Television and rebroadcast several times. Issues of NPS and solutions are presented, and A'poha made a special appearance. This program was viewed statewide and over sixty schools signed up to receive the associated educational package. This gave the program wider and immediate exposure to get our message



Children fish out pollution at the Polluted Runoff Control Booth at the Bishop Museum Family Sunday.



PRC program staff spent the day talking to the Palolo community about polluted runoff.

across to the public. Additionally, a grant was provided to Youth for Environmental Services to continue storm drain stenciling—an activity proven effective and cost-efficient. PRC staff participation in various events included: the Project WET Keiki Water Festival, the Salt Lake Education Day, Bishop Museum Family Sunday, Nawiliwili Day,



Students at the Keiki Water Festival enjoyed the hands on projects.

Acknowledgements

This report would not have been possible without the contributions of supporting staff, namely, Lawana Collier, Richard Gouijn-Stook, and Madeleen Ledda. The PRC program would like to thank Susan Miller and Steve Olive of the Coastal Zone Management office for a successful year with respect to completing the Implementation Plan. We look forward to our continued partnership and progress in achieving the goals described in the plan. The PRC staff would like to thank Eve Yamashiro and the State Attorney General's office for their assistance in the drafting of all project contracts. The program also gives thanks to HACD and NRCS for their assistance throughout the year. Finally, we thank Denis Lau, CWB Chief, Audrey Shileikis, EPA Project Officer, Gary Gill, Deputy Director of Environmental Health, and Dr. Bruce Anderson, Director of Health for leadership, guidance, and continued support.



*"We must be the
change we wish to see
in the world."
- Mahatma Gandhi*

For More Information...

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Public Participation continued



Students discover a bridge made by nature on their hike at Tantlus.

Palolo Pride, and Earth Day. Further, the PRC Program continued its participation as an active member of the Environmental Educators Network.

The PRC Program continues a special partnership with local playwright and children author Lisa Matsumoto. Ms. Matsumoto wrote "Under the Clear Blue Sea" which is an hour-long play that introduces Hawaii's unique marine environment and makes the viewers aware of impacts, such as water pollution, on the marine environment. The PRC Program sponsored the video reproduction and the play, distribution of the video, and deferred costs so that the play could be done live at schools around the state. Last year the PRC Program entered into the same partnership with the play, "Voices of the Rainforest", and this year with the play, "Under the Hawaiian Sky".

Lastly, thousands of pieces of educational materials were distributed statewide per request or at education events. Materials included our popular coloring book, pencils and NPS pamphlet. We have also distributed our new Apoha window sticker to increase the visibility of our mascot and our program. In general, our materials were distributed to private businesses, federal partners like the US Navy and Natural Resources Conservation Service, state partners like the SWCDs, non-profits like Friends of Heeia, and schools from all the major islands. A huge volume of materials was distributed during the month of July, from the PRC program display at the State Department of Health's office building lobby. For a detailed breakdown of public outreach events please refer to Appendix A, Part D.



Children listen attentively to the Polluted Runoff control presentation.

*"A teacher affects
eternity, no one can tell
where his influence
stops."
-Henry Adams*